Full-screen Editor

For the TRS-80* Model III

Create and Edit **BASIC** *Programs Quickly and Easily*

DCS Editor Ver. 2.0

Min.32K RAM Disk Systems

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This program is the result of much work by the people who have written, debugged and drafted this manual. We have tried to provide you with the best possible program, and hope you enjoy it. We welcome any comments and suggestions which will improve this program.

There is no warranty, expressed or implied, that this program will do anything other than load and work. Should any problems arise, we may be contacted by mail or phone and will be happy to assist you.

INTRODUCTION

A Full-Screen editor is one which allows you to make changes to data anywhere on the screen display. You may add, delete, insert or change characters on one or more lines, any number of times needed. Any changes made are to the data on the screen only, until you press the ENTER key. Then those changes are applied to the lines in your BASIC program.

To assist you in editing or creating your BASIC program, the DCS Editor has a number of control key functions and commands. A control key performs a specific function as soon as it is pressed; a command, on the other hand, is typed into a command area on the screen and performs a specific function after the ENTER key is pressed. More than one command may be processed with the press of the ENTER key, as there can be a number of command areas on the screen at one time.

There are two types of command areas - A Type 1 command area; which is the top line of the screen; and up to 14 Type 2 command areas. After each BASIC line number shown on the screen, there is a one character Type 2 command area displayed as an '*'. There will be one Type 2 area for each BASIC line displayed on the screen.

A command placed in a Type 2 command area affects the BASIC program line on which it is typed. A command placed in the Type 1 area affects either the whole screen display, or the program line immediately below the command area, depending on the command. This program line below the Type 1 area is known as the Current Line.

LOADING THE EDITOR FROM TAPE

If you have purchased the Disk version on tape, you must first copy it to disk before you can edit. Use the TAPE command as shown below, and remember to type L when asked for the cassette baud rate;

```
TAPE (S=T,D=D)
```

USING THE DSC FULL-SCREEN EDITOR

To use the Editor, the computer must be in BASIC, not the Disk Operating System. Type BASIC to enter basic mode. To call the Editor, you use the CMD command as follows;

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CMD "I","EDIT"
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NOTE: The first time you call the Editor after entering BASIC mode, any Basic program you have in memory will be erased. This is because the Editor loads itself in Basic's low memory, and sets the start of the program buffer after the Editor. Once the editor has initialized storage after the first call, you may return to BASIC and re-enter the Editor with the CMD command as many times as you wish with no loss of your Basic program. After the Editor has been loaded once, you may return to your Disk System, then back to BASIC with the BASIC * command and enter the Editor without program loss. Only the first call to the Editor after executing the BASIC command will erase any program if it exists.

You can also prevent this by entering BASIC, calling the Editor via CMD, then returning to BASIC by pressing BREAK. You may now load a program from Tape or Disk and edit it with the Editor.

When you enter the command CMD "I","EDIT", the DCS Editor will now have control of the screen. To return to BASIC Immediate Mode, press (BREAK). You should become aware of the operating methods of the Editor while the computer is under it's control.

A blinking cursor indicates the Editor is in Insert Mode. This means that any character typed is inserted before the character already at the cursor location. This is done by shifting all the characters from the cursor to the end of the line, one position to the right, then the new character is placed at the cursor location. A non-blinking cursor indicates Non-Insert Mode, and any character typed will replace the character already at the cursor location. See -- Heading id 'key' unknown -- for more information on entering and exiting Insert Mode.

None of the changes made to the screen will be applied to your program in memory until you press the (ENTER) key. This means that if you decide you do not want to apply any of the changes made to the screen, before pressing (ENTER), you may restore the screen to it's original condition by pressing (CLEAR). The screen will be restored as it was after the last time you pressed (ENTER).

When you press (ENTER), processing takes place as follows; all changes to program lines on the screen are applied to the program lines in memory. If no lines were changed. nothing is applied to memory. Any program line on the screen that is made completely blank will be automatically deleted from your program in memory. The screen is scanned for Type 2 commands, starting at the top of the screen, working downward. Each Type 2 command is processed as it is found. Finally, the Type 1 command area is processed. After all this processing is complete, the screen is updated to reflect any changes made by the Type 1 and 2 commands.

Type 1 Commands

Following is a list of the Type 1 commands. To use these commands, type the letter of the command (shown in parenthesis) anywhere on the top line of the screen, between the arrow, and the title information. Then type any parameters needed by the command; finally, press (ENTER).

The command will now be executed.

(F)orward Moves the Screen display forward through your BASIC program.

(B)ackward Moves the Screen display backward through your BASIC program.

(T)op Moves the Screen display to the top line of your BASIC program.

(L)ast Moves the Screen display to the last line of your BASIC program.

(U)p Moves the Screen display up through your BASIC program one line at a time.

(C)opy This command copies a line or group of lines from one location in your program to another, then renumbers the program. Two or three numeric parameters are required; the first is the line number you wish the copied lines to follow; the second and third parameters specify the line(s) to copy. If you wish to copy only 1 line, you need not specify a third parameter. If you wish to copy a group of lines, the second parameter specifies the first line in the group to copy, while the third parameter specifies the last line to be copied.

If for example you wish to copy lines 50 through 120, and place the copied lines after line 20, you would specify the command as follows;
C20,50,120

(R)enumber This command will renumber your program lines, and all references to program lines. You may specify one or two parameters; the first is the start number, and the second is the increment value. If not specified, the values used on the last Renumber or Input Lines command will be used. The entire program is renumbered; the start value is used on the first line, and the increment value is used to number each line after. A typical program of 175 lines with multiple statements on each line requires 9 seconds to be renumbered.

The following references will be renumbered;
All line numbers after the words GOTO, GOSUB, THEN and ELSE; plus line numbers after a double quote as in the following syntax of the IF statement;
100 A$=INKEY$:IF A$=""100

(S)earch This command requires a parameter. A search of every line in your BASIC program will start with the line after the current line, and end with the last line in your program, or the line that contains the string of characters you typed as a parameter of the S command. This line will then become the current line.

(X)tend This will extend the length of each program line on the screen by 64 characters. This will allow you to add to the end of a line in your program that reaches the end of the screen line. A line may be extended to a length of 256 characters (4 screen lines).

(A)dd Adds a blank line into your BASIC program. If you do not type a parameter after the A command, the new line is added after the current line, and is automatically numbered in sequence by the Editor. The cursor will be placed at the start of the line, and you may enter data onto that line.

You may type a number after the A command, in which case the Editor will search your program for that line. If it exists, it will become the current line. If it does not exist, it will be added, and the line before it will become the current line. The cursor will be placed at the start of the new line, and you may enter data onto that line.

(D)elete Deletes the Current Line from your BASIC program. The line that followed the deleted line will become the Current Line.

(I)nput Lines This command has three parameters, all of which are optional. You would use the Input Lines command either to create a new BASIC program, or to add lines to the end of an existing program. In the second case, the first parameter will be ignored if specified. The parameters are all numeric, and separated from each other with a comma. The parameters are as follows; The starting line number, an increment value, and a line length code. If you do not specify the first two parameters, they will default to 10 and 10, or the values specified on the last Input Lines command. The last parameter will always default to 1. It can be specified as a number between 1 and 4, indicating the maximum length of the new line. Code meanings are; 1 - 64 characters, 2 - 128 characters, 3 - 192 characters, 4 - 256 characters.

After you press (ENTER), a screen full of blank lines with line numbers will be displayed, and you may type you BASIC program on these lines. Any line you do not type data on will be automatically deleted when you press (ENTER).

You may type just a line number in the Type 1 command area, with no command. The Editor will search your program for this line number, and if found, will make it the current line.

Type 2 Commands

Following is a list of the Type 2 Editor commands. These commands are typed in the Type 2 command area of a BASIC program line, and affect that line on which they are typed. You may type a command in any or all Type 2 areas shown on the screen. When you press (ENTER), the Editor will first apply any changes made to program lines on the screen to the program lines in memory, then it will execute any type 2 commands, starting from the top of the screen and working downward, then it will execute any Type 1 commands. Keep this in mind when you execute Type 1 and 2 commands at the same time.

(C)urrent This program line will be made the Current Line. Any Type 1 commands being processed at the same time will affect this new current line, not the previous current line.

(A)dd A blank line will be added after this line, and numbered in sequence by the Editor.

CONTROL KEY FUNCTIONS

Control Key functions are one of two types; Editing and Non-Editing. Editing Keys cause a change to occur to the data on the screen, while Non-Editing Keys move the cursor, or place the Editor into or out of Insert Mode.

Following is a list of the Control Key Functions;

↑ Moves the cursor up 1 line.

↓ Moves the cursor down 1 line.

← Moves the cursor left one character position.

→ Moves the cursor right one character position.

SHIFT ↓ *Moves the cursor to the start of the next program line.

SHIFT ← Moves the cursor to the start of the next program line.

SHIFT → Erases all the characters from the cursor position to the end of this program line.

SHIFT @ Deletes the character at the cursor position, and shifts the rest of this program line left one position.

SHIFT ↑ Places the Editor in Insert Mode if in Non-Insert Mode
or
places the Editor in Non-Insert Mode if in Insert Mode

BREAK Returns control to BASIC Immediate Mode.
To return to the Editor, type CMD and press (ENTER).

CLEAR Restores screen to condition at the last time (ENTER) key was pressed.

ENTER Directs the Editor to apply changes, and execute any commands.

* Early Model III computers only. For later Model III's use the following combination;

SHIFT ↓ Z